

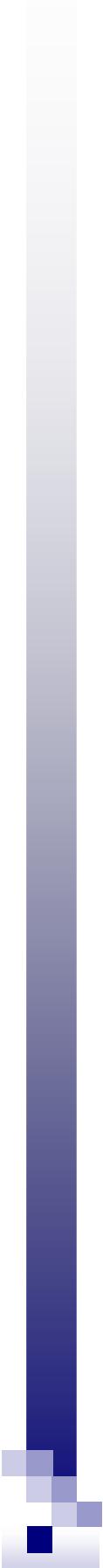
# **Best Practices in Usability**

**Federal Web Content Managers Workshop**

Tuesday, June 7, 2005

Chicago, IL

**Janice R. Nall, GSA**



# What Is Usability?

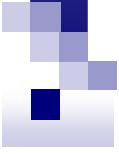
---

- **Usefulness**
  - Degree to which users can successfully achieve goals/complete tasks
- **Effectiveness**
  - Ability of users to accomplish goals with speed and ease
- **Learnability**
  - Ability to operate the system to some defined level of competence after some predetermined amount of training
- **Satisfaction**
  - Attitude of users, including perceptions, feelings and opinions of the product

Booth, Paul. An Introduction to Human-Computer Interaction.  
London: Lawrence Erlbaum Associates, 1998



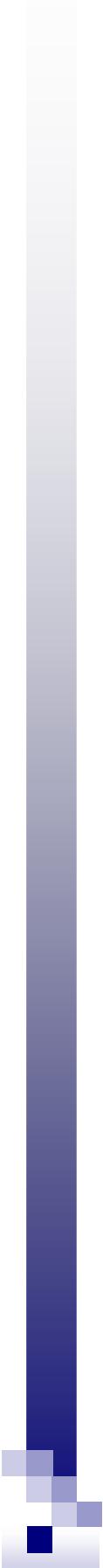
U.S. General Services Administration



# Why Is Usability Important to Government Online Services?

- The Federal Government is the largest single producer, collector, consumer, and disseminator of information in the United States.
- Government provides critical information...benefits, health info, safety alerts, commerce, education...
- 97 million adult Americans, or 77% of Internet users, took advantage of e-gov in 2003, whether that meant going to government websites or emailing government officials. This represented a growth of 50% from 2002. (*Pew Internet in American Life, 2003*)





# Why Now? Why Me/You?

---

- Government sites are heavily visited...and will be more visited in the future. More visits = more work, questions, emails, complaints, calls, etc. if the site isn't working.
- Users will begin to see commonality on Federal sites...you will be asked to implement additional policies.
- Federal web developers will be held to higher standards...is the site really better or just different...how can you prove it?
- Resources are diminishing...we're all being asked to more with less.
- You care about your users' experiences on your site.



# Federal Efforts In Process

- It is essential that Government minimize the Federal paperwork burden on the public, minimize the cost of its information activities, and maximize the usefulness of government information. (*OMB Circular A-130, Management of Federal Information Resources*)
- Increasing focus on performance, metrics, data to support programs, technology, agency mission. (*Government Performance and Results Act of 1993*)
- The Federal Government is in the process of establishing specific requirements for Internet-based information technology to enhance citizen access to government information and services. (*E-Government Act of 2002*)
  - Interagency Committee on Government Information – establishing policies on web content, search/taxonomy, and electronic record-keeping



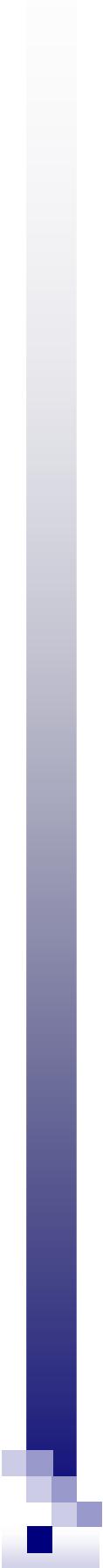


# Why We Do It

---

- 62% of web shoppers gave up looking for an item. (*Zona study*)
- 50% of web sales are lost because visitors can't easily find content.  
*(Gartner Group)*
- 40% of repeat visitors do not return due to a negative experience.  
*(Zona study)*
- 85% of visitors abandon a new site due to poor design. (*cPulse*)
- Only 51% of sites complied with simple web usability principles.  
*(Forrester study of 20 major sites)*





# Why We Do It

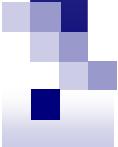
---

## **Forrester Review of 125 Websites (2003)**

- 78% failed to provide adequate search results.
- 66% failed to provide in-depth overview of site contents on the home page.
- 64% ineffectively use of space on page layout.
- 54% were not accessible.
- 50% used text that was illegible.



U.S. General Services Administration

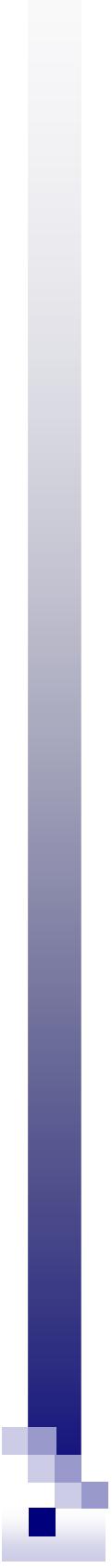


# What Is Usability Engineering?

---

- An evidence-based methodology that involves end users throughout the development process to produce information systems that are measurably easier to use, learn, and remember
- Usability Engineering involves:
  - Collecting data about users' needs/wants/behaviors
  - Developing prototypes
  - Evaluating the prototypes
  - Designing and testing iteratively



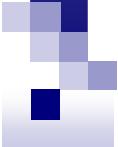


# Usability Engineering is NOT

---

- Usability testing just before launch
- Simply applying guidelines during design
- An expert review of the site/application
- Conducting evaluations without incorporating recommendations
- Any individual usability method on its own
- A nebulous, vague methodology
- Merely cosmetic graphics
- A property inherent in a product (It depends on the users, tasks, and work environments)





# Heuristic Evaluation (aka Expert Review)

- What is it?
  - Expert review of web site based on established guidelines
- How do you do it?
  - Conducted by usability expert (best to include multiple reviewers)
  - Experts review site for compliance with established principles
- Advantages/Disadvantages?
  - Provides a reference of issues to be tested
  - Subjective, not real users
  - Not always accurate, identifies false positives
- 50% False Alarms, 20% Misses, 50% Hits

(Catani and Biers, 1998, Rooden, Green and Kanis, 1999, Stanton and Stevenage, 1998,  
Spencer, 2000, Jacobson and John, 2000)



# Why We Do It

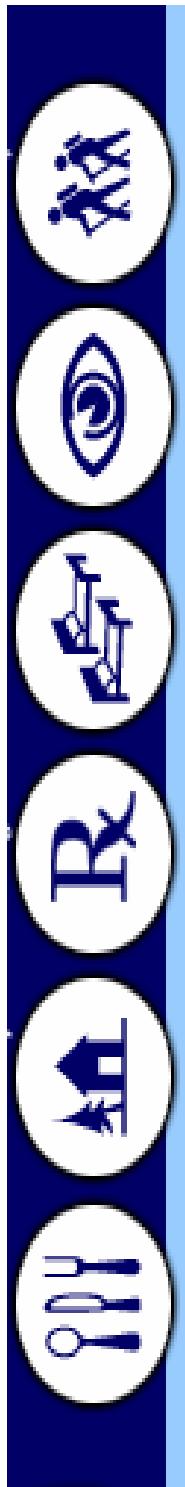
- **Usability Engineering Works**
  - It's user-centric (not developer-centric)
  - It's based on data, not opinions
  - It's testable and verifiable
  - It's performance-driven
  - Saves money and time
  
- **Research-based Information Design Works**
  - Removes much of the controversy in opinion
  - Performance oriented – measurably better/faster/etc.
  - Takes the guesswork out – allows you to focus on what you don't know – to solve problems

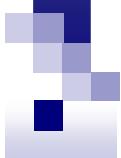


Importance  
Evidence

## 2:1 Display Information in a Directly Usable Format

Sources: 6

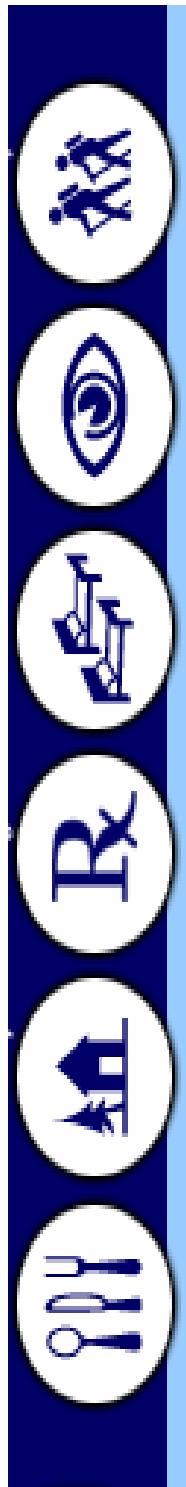




Importance  
Evidence

## 2:1 Display Information in a Directly Usable Format

Sources: 6



Diet   Family   Drugs   Sex   Mind   Body

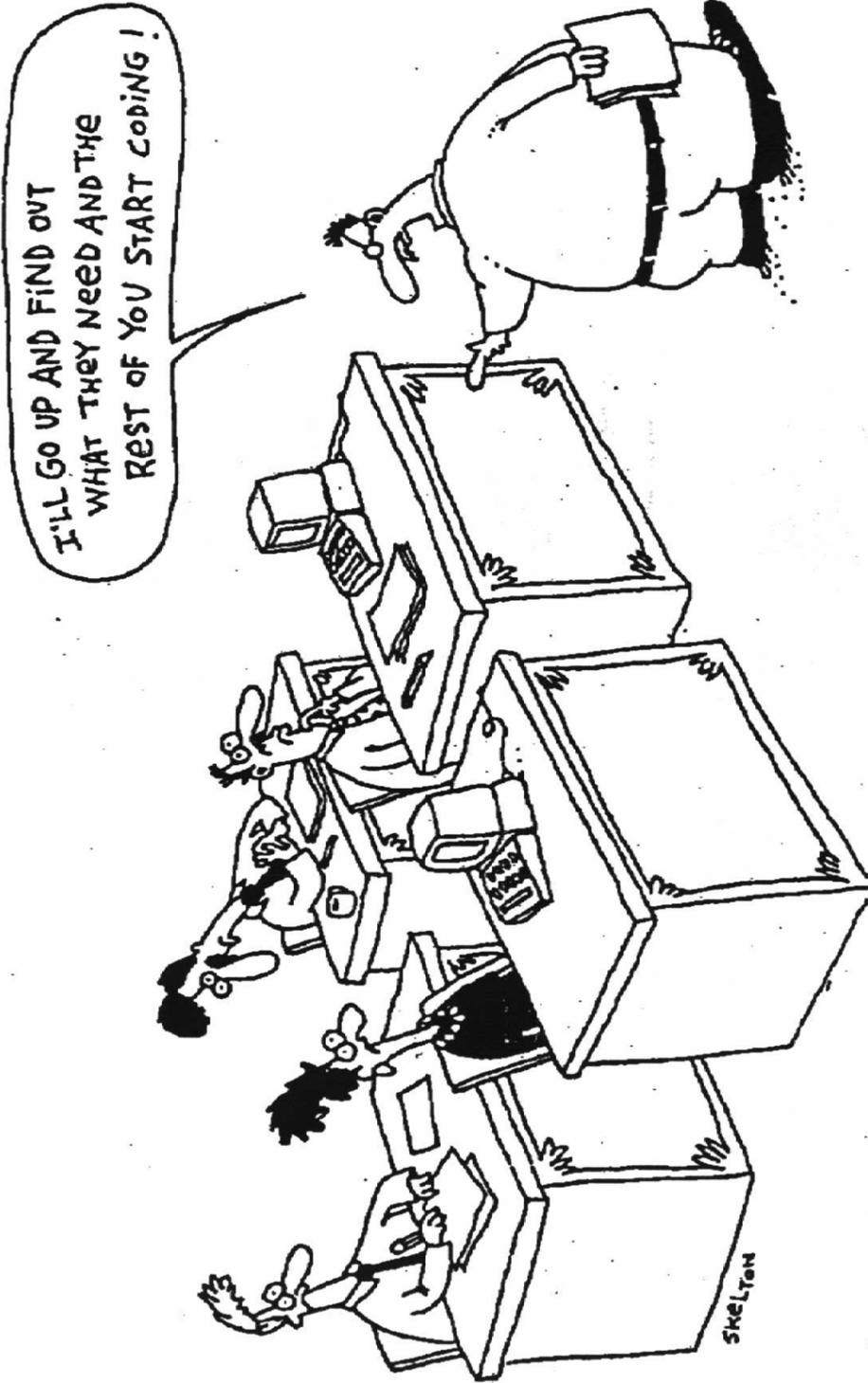


Previous   Next   Home   Search   Help



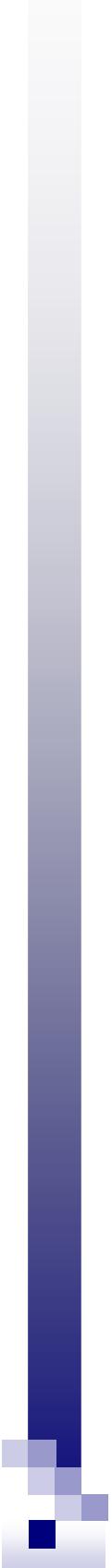
U.S. General Services Administration

# Traditional Development Process



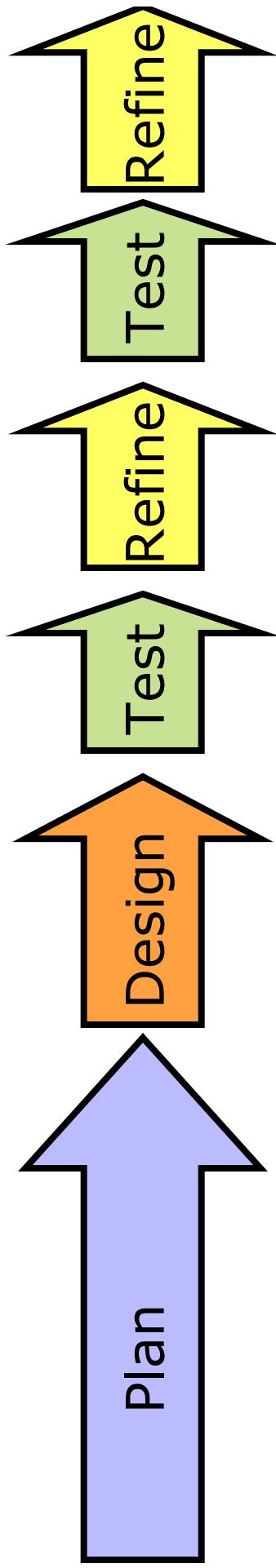
GSA

U.S. General Services Administration



# User-Centered Design Process

---

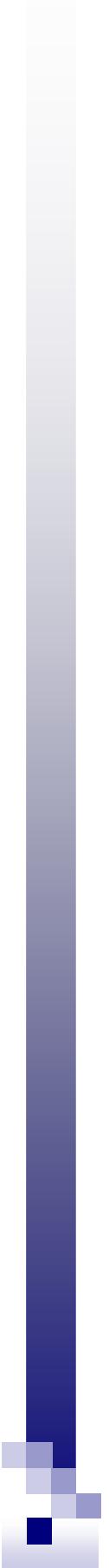


U.S. General Services Administration

# Planning

- Planning Steps
  - Define purpose / vision for the site
  - Develop business objectives
  - Define audiences & goals
  - Conduct task analysis
  - Determine measurable usability objectives
  - Discuss expectations, requirements & preferences
  - Timeline and project plan





# Planning: Site Purpose & Goals

---

“Although the needs of the user and the organization are connected, each has a different point of view. Each point of view must be honored and satisfied.”

John Cato  
User-Centered Web Design

Two main aspects of a web site

- What use is it to the organization?
- What use is it to the user?





# Planning: Site Purpose & Goals

---

- What is the purpose of the site?
  - Why are we building a site?
  - What are the goals of the site?
- Why are we developing a web site?
  - What does success look like?
  - How will we know when we have been successful?
- How would you describe the site?
  - From an organization's viewpoint?
  - From a user's viewpoint?



# Planning: Site Purpose & Goals

Organization's Purpose	Visitor's Purpose
<ul style="list-style-type: none"><li>■ To promote awareness.</li><li>■ To reduce support calls.</li></ul>	<ul style="list-style-type: none"><li>■ To get information.</li><li>■ To answer a question.</li></ul>
<ul style="list-style-type: none"><li>■ To improve employee communication</li></ul>	<ul style="list-style-type: none"><li>■ To get work done fast.</li></ul>
<ul style="list-style-type: none"><li>■ To sell merchandise.</li></ul>	<ul style="list-style-type: none"><li>■ To learn about products.</li><li>■ To purchase products.</li><li>■ To comparison shop.</li></ul>



U.S. General Services Administration

New York State Home Page - Microsoft Internet Explorer

File Edit View Favorites Tools Help

Back Forward Stop Refresh Home Search Favorites Media History Print Mail Options Autofill

Address http://www.state.ny.us/ Google state of new york

Home Featured Links ▲

Click here to view Governor Pataki's 2004 State of the State Address

Click here to view Governor Pataki's 2004 Budget Address

Department of Taxation and Finance - E-file / E-pay

Click here to view Governor Pataki's Address on Rebuilding Lower Manhattan.

Governor George E. Pataki Realizing The Plan Ritz Carlton, Downtown / April 24, 2003

New York State Constitution

NYS Office of Public Security

NYS Health Dept/State Police Bio-Terror Prevention Protocols

Governor's Press Releases

NY Links

STAR - School Tax Relief High Tech NY

New York State

Governor Pataki

Doing Business in NY Working in NY Learning in NY Outdoors in NY Living in NY Government in NY Healthcare in NY Visiting in NY Government Agencies in NY

e-bizNYS

Click here to view the Commission on Education Reform Press Release

Click here to view Commission on Education Reform Report



Governor George E. Pataki

# Planning: Site Purpose & Goals

- Not so good example: New York State Web Site

Organization's Purpose	Visitor's Purpose
■ To promote the governor.	✗ ?
?	■ To find info about the state.



File Edit View Favorites Tools Help

Back Forward Stop Refresh Home Search Favorites Media History Mail Print Edit Go Links

Address http://www.maryland.gov/communities/community.asp?UserID=2&CommunityID=227&FolderID=0

Google state of maryland state of maryland Search Web Search Site Options AutoFill Links

MARYLAND.GOV

Welcome to Maryland.gov | State Agencies | Visit Maryland | The 5 Pillars | Online Services | Telephone Directory

[Home](#) [FAQ](#) [Search](#)

[Advanced Search](#)

**TAXES** **GOVERNMENT & ELECTIONS**

**BUSINESS** **TRAVEL & RECREATION** **CAREER OPPORTUNITIES & DEVELOPMENT**

**EDUCATION** **MOTOR VEHICLES & TRANSPORTATION**

**FAMILY, HEALTH & SAFETY**

**Quick Links**

- [County Information](#)
- [Events](#)
- [Federal Government](#)
- [History & Archives](#)
- [Kid's Pages](#)
- [Telephone Directory](#)
- [Traffic](#)
- [Weather](#)

**ELEVATED**

**Welcome to Maryland**

Visit The Governor's Website  
Maryland's General Assembly & The 2004 Legislative Session  
FY 2005 Budget Highlights

**The Maryland Energy Administration**

Check out MEA's newly designed website to learn about Alternative Fuel Vehicles (AFV), discover the benefits of Maryland's Energy Star Program, or just have fun with a kid friendly interactive Energy Hog!

**Travel and Recreation**

**Take me there ...**

**Agency Index**

Select Agency...

**News and Alerts**

- [Governor Ehrlich Highlights 2004 Legislative Victories](#)
- [New Freight Logistics Office Reflects Administration's Pro-Business Philosophy](#)
- [Drinking and Driving Consequences The Order of the Day At](#)

**Featured Links**

[View Montage Gallery](#)

**Spotlight on eGov:**

[Check Your Refund Status Online](#)

[Search for Undeliverable Refund Checks](#)

[Find A State Job](#)

[Real Property Database Search](#)

**Parents & Educators Expected at Family Involvement**

**Maryland E-ZPass - Enroll**

**Internet**

Start Google - Microsoft Internet Explorer Can's Web Pages Screenshots.doc ... 2:18 AM

Virginia.gov - The Official Commonwealth of Virginia Home Page - Microsoft Internet Explorer

File Edit View Favorites Tools Help

Back Forward Stop Refresh Home Search Favorites Media Mail History Options AutoFill Links

Address http://www.virginia.gov/cmsportal/

Google state of virginia Search Web Search Site Wireless Site Text Only Site Web Policy Contact the Governor of Virginia Contact Us State Web Site List

Commonwealth of Virginia

virginia.gov

Virginia Communities Family & Education Business and Employment Online Services Government Visiting Virginia Featured Sites About VIPNet

Live Help unavailable leave a message

The Live Help service requires advanced browser features to function. If your browser does not support the Live Help, you may still use our feedback link to contact the Commonwealth of Virginia Portal.

Get online, not in line

Citizen Services • Virginia government services available to citizens.

Business Services • Virginia government services available to businesses.

PDA/Wireless Services • PDA/Wireless Services

Premium Services • Virginia government services available on your PDA/Palm/wireless device.

Enhanced access services available to subscribers.

Online Services

Virginia eGovernment

Enter search keyword

Governor Warner's Web Site

Emergency Notifications

Emergency information, such as Homeland Security updates, storm warnings, drought information, War on Terrorism information, and other notices.

Personalized My Virginia Page

Create a personalized version of the My Virginia portal, with only the links you use. Or visit your existing page.

A Service of 

Start Internet

2:19 AM

**MyFlorida.com - Home Page - Microsoft Internet Explorer**

File Edit View Favorites Tools Help

Back Forward Stop Refresh Home Search Favorites Media History Mail Print Edit

Address  Google state of Flor

Welcome to Florida

The Official Portal of The State of Florida

Enter keywords:  SEARCH

Featured e-Government Services

[View all e-Government Services](#)

**County Official Records Search**  
Visit MyFlorida communities to do everything from visiting county web sites to finding birth certificates.

**Digital Divide Council**  
Find out what digital divide technology services are available in your city and around the state of Florida. You can also register your organization, technology center, school, company, or technology/digital divide initiative with us.

**Florida Homeland Security**  
Domestic Security News, Public Safety and Prevention Protocols.

**Governor's Initiatives**  
One Florida, Just Read, A+ Plan and more.

**High Tech Job Openings**  
Looking for a job in the high tech field? View high tech job listings in Florida by region.

**Hot Topics**

411 State Employee  
Search for a State of Florida Government contact or resources on a specific subject:

- Florida's Voluntary Universal Prekindergarten Program
- Florida Hospital Services Guide
- Governor's Task Force on Access to

Florida Guardsman Online  
Florida Statewide Strategic Plan  
Governors Task Force on Access to

e-Gov Shortcuts

Use these shortcuts to get key services and information in one click!

Visitor  Floridian  Government  Business

Get Answers Now

Search by selecting a general topic, specific keywords, or keywords within topic.

All Categories

Governor's Office

Contact Governor Bush

Internet

Done Start

Google - Microsoft ... MyFlorida.com ... Can's Web Pages Screenshots.doc ...

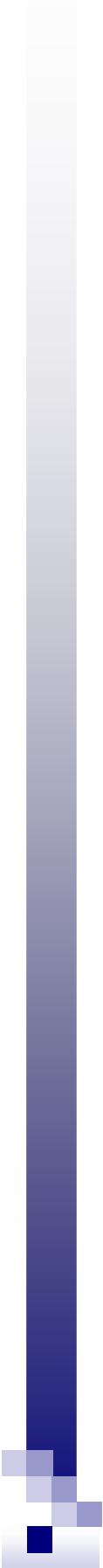
2:17 AM

A large red circle highlights the central content area of the page, which includes the "Featured e-Government Services" section, the "County Official Records Search" link, the "Digital Divide Council" section, the "Governor's Initiatives" section, and the "Hot Topics" section. The "e-Gov Shortcuts" sidebar is also partially enclosed by the circle.

# Planning: Site Purpose & Goals

- If it's not useful to users, it will never be used!



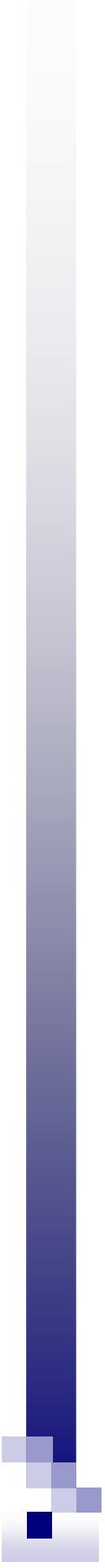


# Planning: Defining Users

---

- Who are we developing the site for?
  - User Characteristics
    - Who is the site for?
    - What are the users like?
  - Environmental Characteristics
    - When/where will they access the site?
  - Goal & Task Characteristics
    - Why will they come to the site?
    - What will they do on the site?





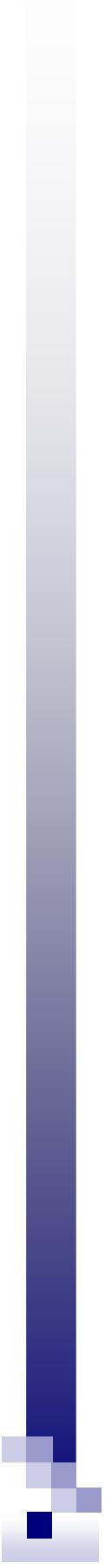
# Planning: Defining Users

---

## User Needs, Interests, Goals

- Why will users visit your site?
  - To find information?
  - To use functionality? (i.e. mortgage calculator)
  - To purchase products?
  
- What will users do on the site?
  - Which tasks are the most important?
  - Which tasks will users use the most? (frequency)





# Planning: Usability Objectives

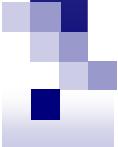
---

“It has long been said you cannot manage what you cannot measure. Nowhere is this more true than on the web – where examining what works and what doesn’t directly affects the bottom line.” (*Forrester Research*)

Usability objectives must be:

- Determined at the beginning of the project.
- Agreed upon by all team members.
- Written down; Referred to often.
- Measurable





# User Research: Gathering & Analyzing Data

---

- When you sit down at your first planning meeting, you are NOT going to have all the information you need about users, their characteristics and their goals.
- In order to get this information, you will most likely have to do some research.
- There are several types of research. You need to decide what type is best for your project, timeframe, budget, audience, etc.



# User Research: Gathering & Analyzing Data

- Methods of Data Collection
  - Personal Interviews
  - Contextual Inquiries
  - Focus Groups (for requirements gathering)
  - Support Line/Phone Calls
  - E-mail
  - Web Logs
  - Surveys
  - Usability Testing



# User Research: Gathering & Analyzing Data

"Which of the following best describes you?"

	CancerNet		NCI	
	N	%	N	%
<b>Family/Friends</b>	<b>169</b>	<b>28</b>	<b>414</b>	<b>27</b>
<b>Cancer Patients</b>	<b>85</b>	<b>14</b>	<b>266</b>	<b>17</b>
<b>Educators/Students</b>	-	-	<b>155</b>	<b>10</b>
<b>Researchers/Scientist</b>	<b>41</b>	<b>7</b>	<b>97</b>	<b>6</b>
<b>Nurse (non-Oncology)</b>	<b>15</b>	<b>2</b>	<b>42</b>	<b>3</b>
<b>Oncology Nurse</b>	<b>14</b>	<b>2</b>	<b>34</b>	<b>2</b>
<b>Oncologist</b>	<b>60</b>	<b>10</b>	<b>33</b>	<b>2</b>
<b>Physician (non-Oncology)</b>	<b>22</b>	<b>4</b>	<b>32</b>	<b>2</b>
<b>Journalist/Media Professional</b>	-	-	<b>31</b>	<b>2</b>
<b>Librarian</b>	<b>29</b>	<b>5</b>	<b>30</b>	<b>2</b>
<b>Patient Advocate</b>	<b>8</b>	<b>1</b>	<b>26</b>	<b>2</b>
<b>Other</b>	<b>91</b>	<b>15</b>	<b>209</b>	<b>14</b>
<b>Not specified</b>	<b>81</b>	<b>13</b>	<b>157</b>	<b>10</b>
	<b>615</b>		<b>1526</b>	



# User Research: Gathering & Analyzing Data

"What information are you looking for?"

<u>Major Categories</u>	<u>CancerNet</u>	<u>NCI</u>
Information on specific type of cancer	23%	25%
Treatment information	19	17
Symptoms, causes, risk factors.....	8	5
Statistics (e.g. incidence rates, survival)	3	5
Clinical Trials	11	5
Access to other resources (e.g. treatment facilities, physicians)	3	4
Drug information	3	4
NIH Organization (e.g. mission, employment)	-	3
New treatments	5	3
Ordering NCI publications	2	3
Recent findings	-	2
Type of tumor (not by cancer name)	7	2
Cancer literature	5	1
Patient support	4	2
Side effects	3	2



# Design

- Translating Data into Design
  - User profiles
    - List of user characteristics
    - User personas
      - Narrative of user characteristics
    - Task lists
      - Tasks ranked by importance, frequency, and feasibility
    - Task matrix
      - Tasks ordered by users
    - Task flow
      - Diagram of steps in a process



## User Profile for:

**Age Range:**      **Ethnic Origins:**      **Income Level:**

卷之三

**Occupation:**  
**Gender:**  
**Disabilities:**

卷之三

Highest Education

- Ph.D       Example       Less than 1 year

Master's Degree       Example       1 – 4 years

Bachelor's Degree       Example       5 – 10 years

Associate Degree       Example       11 – 15 years

Other: \_\_\_\_\_  More than 15 years

Major

- Example
  - Example
  - Example
  - Example
  - Other:

### Years of Experience

- Less than 1 year
  - 1 – 4 years
  - 5 – 10 years
  - 11 – 15 years
  - More than 15 years

Computer Experience

- Novice
  - Intermediate
  - Advanced

Internet Experience

- Novice
  - Intermediate
  - Advanced

Internet Usage

- Daily
  - Weekly
  - Monthly

## Tasks a User Will Perform on the Site:

Tasks	Daily	Weekly	Monthly	Rarely
1.	■			
2.	■			
3.	■			
4.	■			
5.	■			
6.	■			
7.	■			

## User Interests:

User Interests:	<input type="text"/>
Additional Notes:	<input type="text"/>

## **Additional Notes:**

# Translating Data into Design

## User Personas

### Sarah Parker

Sarah is a Senior Marketing Specialist with seven years of experience planning health campaigns.

She works in a large office where she handles multiple projects. She is constantly busy and struggles with a limited budget.

Sarah can easily identify the steps necessary to carry out each project. She doesn't need help determining how to approach the planning process and mainly uses the various resources available as a reference.

Sarah would appreciate any tool or resource that could help her get her work done faster and more efficiently.



# Translating Data into Design

## Task List

- Prioritize list of tasks by:

- Importance
- Frequency of Use
- Feasibility

Online Banking Tasks	Importance	Frequency	Feasibility
■ To check account balances.			
■ To transfer funds.			
■ To pay bills.			
■ To order checks.			
■ To change address.			



U.S. General Services Administration

# Translating Data into Design

## Task Matrix

- List of tasks by user

University Tasks	Prospective	Students	Alumni	Faculty
■ To apply for admission.	X			
■ To find a contact number.	X	X	X	X
■ To register for classes.		X		
■ To access course catalog.	X	X	X	X
■ To donate money.			X	
■ To request a transcript.		X	X	



# Translating Data into Design

- Use task matrix in conjunction with user profiles

NCI Tasks	Researchers	Physicians	Patients	Family
■ To find health information.	X	X	X	X
■ To apply for a clinical trial.			X	
■ To apply for a grant.	X	X		

- To Find Health Information
  - Are researchers, physicians, patients, and family members all looking for the same health information?
  - Need to consider user profile, including:
    - Relationship to organization
    - Knowledge level
    - Familiarity with topic



U.S. General Services Administration

Cancer.gov - Colon and Rectal Cancer Home Page - Microsoft Internet Explorer

File Edit View Favorites Tools Help

Back Forward Stop Refresh Home Search Favorites Media History Mail Print Edit

Address http://www.cancer.gov/cancer\_information/cancer\_type/colon\_and\_rectal/

Google www.cancer.gov Search Web Search Site Options Autofill Links

dictionary site map search

Advanced search

Cancer Progress Report

Past Highlights

Press/NewsCenter

1-800-4-CANCER Cancer Information Service

NCI Cancer Bulletin CLICK HERE TO SUBSCRIBE >

DIRECTOR'S CORNER

Welcome Director's Update

help Cancer.gov Help FAQs

Internet

Done Start

Colon and Rectal Cancer Home Page

What You Need To Know About™ Cancer of the Colon and Rectum

Information about detection, symptoms, diagnosis, and treatment of colon and rectal cancer.

NIH Publication No. 03-1552

NHSSeniorHealth: Colorectal Cancer

NHSSeniorHealth is a Web site that features authoritative and up-to-date health information in a format tailored to older adults.

PDQ® - NCI's Comprehensive Cancer Database

Full description of the NCI PDQ database.

**Treatment**

Information about treatments, including surgery, chemotherapy, radiation therapy, immunotherapy, and vaccine therapy

- Colon Cancer Treatment
- [Patients] [ health professionals ]
- Rectal Cancer Treatment
- [Patients] [ health professionals ]
- Bevacizumab Improves Survival in Colorectal Cancer
- More Information

**Prevention, Genetics, Causes**

Information related to prevention, genetics, and risk factors

- Colorectal Cancer Prevention
- [Patients] [ health professionals ]
- Trials Show Aspirin Reduces Recurrence of Polyps
- Genetics of Colorectal Cancer
- More Information

**Cancer Literature**

Resources available from the PubMed database

- Cancer Topic Searches: Gastrointestinal Cancers
- Cancer Topic Searches: Cancer Genetics
- Cancer Literature in PubMed

**Research and Related Information**

Includes NCI-supported research, funding opportunities, and special reports

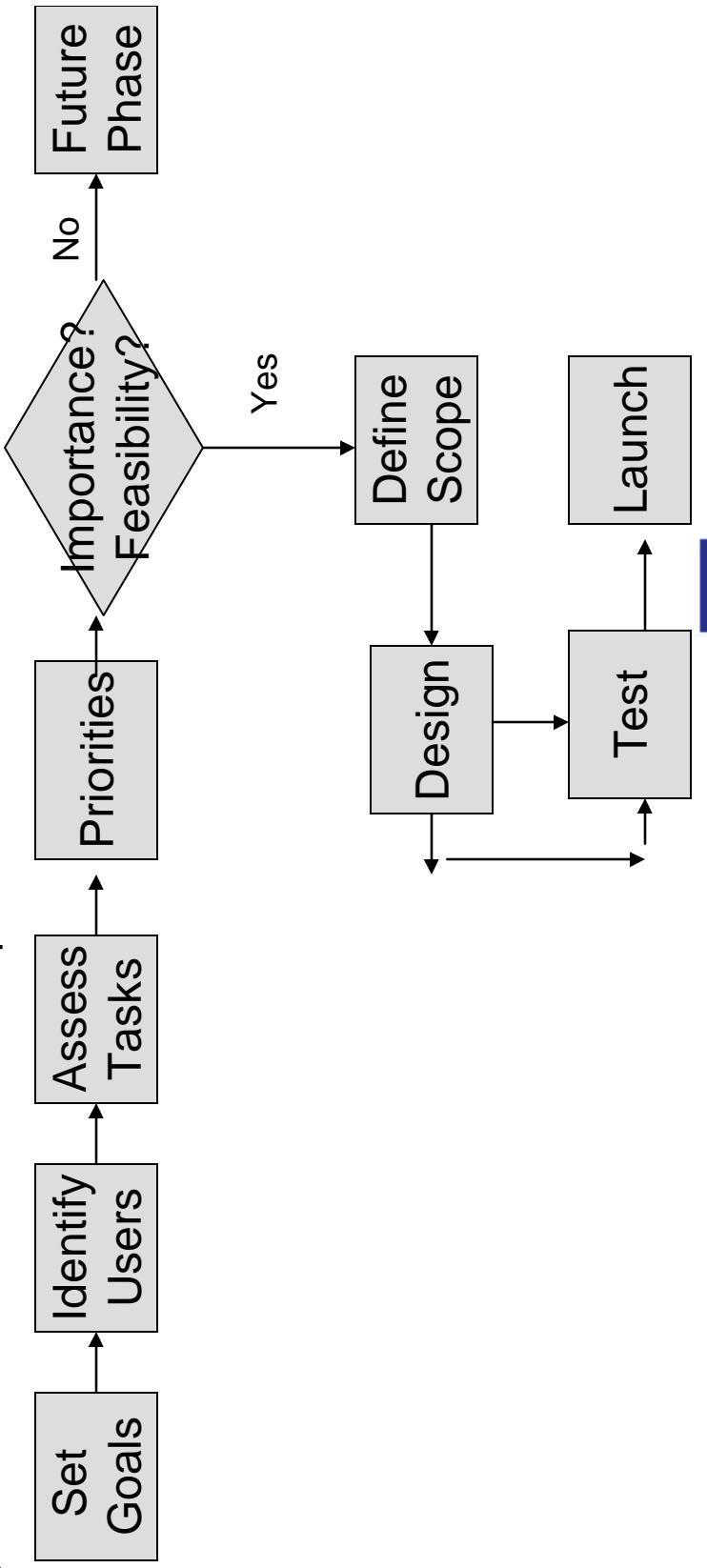
- Colorectal Cancer Research Funding Opportunities
- Colon and Rectal Cancer Research Projects
- Colon and Rectal Cancer Clinical Trials

8:00 PM

# Translating Data into Design

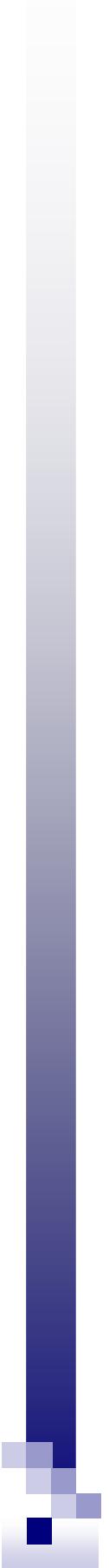
## Task Flow

- Diagram that shows tasks in order performed.



GSA

U.S. General Services Administration



# Designing the Initial Prototype

---

- Designing the Initial Prototype
  - Content
  - Information Architecture
  - Graphic Design
  - Programming & Accessibility



# Designing the Initial Prototype

---

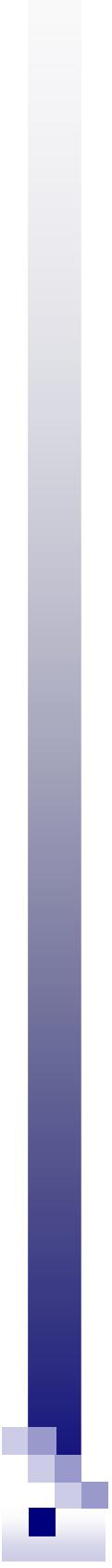
## Writing for the Web

- More info:

- [www.plainlanguage.gov](http://www.plainlanguage.gov)
- [www.useit.com/alertbox/9710a.html](http://www.useit.com/alertbox/9710a.html)
- [www.useit.com/papers/webwriting/rewriting.html](http://www.useit.com/papers/webwriting/rewriting.html)
- [www.webpagecontent.com](http://www.webpagecontent.com)
- [www.usability.gov/guidelines](http://www.usability.gov/guidelines)



U.S. General Services Administration



# Designing the Initial Prototype

---

- Information Architecture
  - Defined as the organization of the content and tasks
- How do users search for info?
  - Known-Item
    - Users know exactly what they are looking for.
    - They know what it is called and that it exists.
    - They just want to find it.
  - Casual Browsing
    - Users have an idea of what they are looking for.
    - They may not know the right labels or what it is called.
    - They may not know if the info even exists.



# Designing the Initial Prototype

## Card Sorting

- What is it?
  - Technique that explores how users group items
  - Helps develop structures that are logical to users
  - Maximizes probability of users finding info
- Advantages/Disadvantages?
  - Easy and inexpensive
  - Helps to develop categories that are logical to users
  - Helps to identify items that need to be renamed
  - Helps with terminology
  - Sometimes difficult to analyze, tools have limitations



# Designing the Initial Prototype

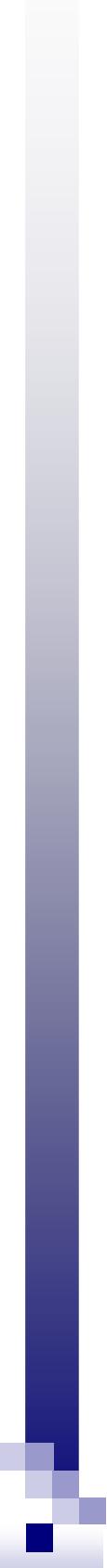
## Card Sorting

- More info on Card Sorting:

- <http://www.stcsig.org/usability/topics/cardsorting.html>
- <http://iawiki.net/CardSorting>
- <http://www-106.ibm.com/developerworks/edu/wa-dw-uscard-i.html>



U.S. General Services Administration



# Designing the Initial Prototype

---

## Parallel Design

- What is it?
  - Process used to quickly create multiple iterations
  - Incorporate the best elements from several designs
- How to do it?
  - Independently create a schematic of a page and/or function
  - Schematics are displayed for everyone to observe
  - Revise schematic to incorporate best elements from designs
- Advantages/Disadvantages?
  - Great brainstorming technique
  - Ensures team considers multiple designs
  - Can be time-consuming



# Designing the Initial Prototype

## Paper Prototyping

- What is it?
  - Low-tech method that allows you to test early, before design and development
  - Paper drawings of pages
- How to do it?
  - Participants are shown the paper prototype and given scenarios
  - Participants are asked to point to where they would click
- Advantages/Disadvantages?
  - Helps to find problems early
  - Inexpensive, saves development time
  - Help determine affordance (does it look clickable)



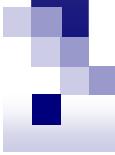
U.S. General Services Administration

# Designing the Initial Prototype

---

## Graphic Design

- The graphic design should add a layer of usability, not reduce the usefulness of a solid information architecture.
- Test design independently of content and navigation.
- Use guidelines to assist.



<p>Logo</p> <p>Making Health Communication Programs Work</p>	<p><b>Step-by-Step Guide to Creating a Health Communication Program</b></p>	<p><a href="#">Home</a> <a href="#">Get a Print Copy</a> <a href="#">Contact Us</a></p> <p><input type="text"/> <input type="button" value="Search"/></p> <hr/> <p><b>Items to Consider Through Each Step</b></p> <p><b>Research Methods</b></p> <ul style="list-style-type: none"> <li>• Focus groups &amp; interviews</li> <li>• Surveys &amp; questionnaires</li> </ul> <p><b>Partnerships</b></p> <ul style="list-style-type: none"> <li>• Partnerships with organizations</li> <li>• Coalition-building</li> </ul> <p><b>Frameworks, Models, Theory</b></p> <ul style="list-style-type: none"> <li>• Social Marketing</li> <li>• PRECEDE-PROCEED</li> </ul> <hr/> <p><b>Samples &amp; Tools to Help You</b></p> <p><b>Samples, Worksheets &amp; Tools</b></p> <ul style="list-style-type: none"> <li>• communication plans &amp; budgets</li> <li>• creative briefs</li> <li>• evaluation plans</li> <li>• brochures, ads, radio spots</li> <li>• focus group moderator's guide</li> </ul> <p><b>Case Studies</b></p> <ul style="list-style-type: none"> <li>• Doctor-patient communication</li> <li>• Mammography and 55+ women</li> <li>• Low-literacy campaigns</li> </ul> <hr/> <p><b>Evaluate the Program</b></p> <ul style="list-style-type: none"> <li>• Setting evaluation goals</li> <li>• Selecting methods for evaluation</li> <li>• Revising your program</li> </ul>
--	---	---



## Making Health Communication Programs Work

Home

Search

Home  
Glossary  
Site Map

Learn

Nostrud ex, velit labore ullamco dolor quis si, consequat incididunt.  
Accumsan ea et quod velit illum voluptat suspendit duis dolor in  
uxor similis.

GO  
▼

Browse

Nostrud ex, velit labore ullamco dolor quis si, consequat incididunt.  
Accumsan ea et quod velit illum voluptat suspendit duis dolor in  
uxor similis.

GO  
▼

Ask

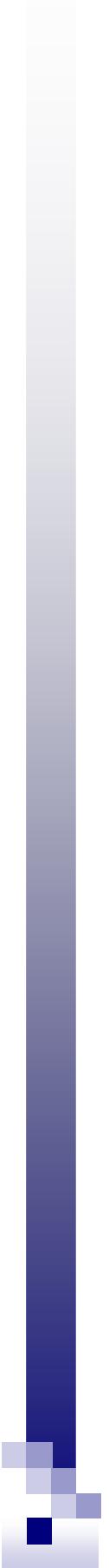
Nostrud ex, velit labore ullamco dolor quis si, consequat incididunt.  
Accumsan ea et quod velit illum voluptat suspendit duis dolor in  
uxor similis.

GO  
►

About this site Contact Us Privacy Policy Print this site Accessibility



FIRST GOV  
Your First Click to the U.S. Government



# Designing the Initial Prototype

---

- Accessibility
  - Cannot be an afterthought
  - Needs to be considered at the beginning of a project



# Usability Testing

- **What is usability?**

- Usefulness
    - Degree to which users can successfully achieve goals
    - Effectiveness (ease of use)
      - Ability of users to accomplish goals with speed & ease
    - Learnability
      - Ability to operate the system to some defined level of competence after some predetermined amount/period of training
    - Satisfaction / Likeability
      - Attitude of users, includes perceptions, feelings and opinions of the product

Booth, Paul. An Introduction to Human-Computer Interaction. London: Lawrence Erlbaum Associates, 1989.



U.S. General Services Administration

# Usability Testing

## Measures of Usability

- Effectiveness (*Ability to successfully accomplish tasks*)
  - Percentage of goals/tasks achieved (success rate)
  - Number of errors
  
- Efficiency (*Ability to accomplish tasks with speed and ease*)
  - Time to complete a task
  - Frequency of requests for help
  - Number of times facilitator provides assistance
  - Number of times user gives up



U.S. General Services Administration

# Usability Testing

## Measures of Usability

- **Satisfaction** (*Pleasing to users*)
  - Positive and negative ratings on a satisfaction scale
  - Percent of favorable comments to unfavorable comments
  - Number of good vs. bad features recalled after test
  - Number of users who would use the system again
  - Number of times users express dissatisfaction or frustration
- **Learnability** (*Ability to learn how to use site and remember it*)
  - Ratio of successes to failures
  - Number of features that can be recalled after the test



# Usability Testing

- Planning
  - Define goals
  - Determine who will participate
  - Select appropriate tasks
  - Plan logistics
- Conducting the test
  - Assign roles
  - Conduct test
  - Collect data
- Analyzing & implementing results
  - Prioritize findings
  - Implement and retest



# Usability Testing

---

**Usability objectives should be set at the beginning of the project!**

Two types of data...two types of goals:

- Performance
  - What actually happened
- Preference
  - What participants thought



# Usability Testing

## Examples of Usability Objectives:

- Two-thirds of test participants (6 of 9) will be able to complete x% of tasks in the time allotted.
- Participants will be able to complete x% of tasks in 200% of developer's time.
- Participants will be able to complete x% of tasks with no more than one error per task.
- Two-thirds of test participants (6 of 9) will rate the system as highly usable on a scale of x to X.



# Usability Testing

- Determine who will participate
  - User profiles
    - Match characteristics from user analysis
    - Select representative group of users
  - Selecting participants
    - Recruiting – recruitment firms, databases, conferences
    - Numbers – target numbers, floaters
    - Schedule – allow recoup time
  - Pre-Questionnaires – profile of participants
  - Incentives – consent & payment form



# Usability Testing

## Select Appropriate Tasks

- Focus on core tasks, prioritize by
  - Frequency
  - Importance
  - Vulnerability
  - Readiness
- Ensure each task is measurable. Define success measures for each task.
  - Include pathway information for observers
  - List the items that should be recorded for each task so note-takers and observers record the appropriate information
- Conduct a pilot test to look for give-away wording, confusing scenarios and to work on timing



U.S. General Services Administration

# Usability Testing

## Create Scenarios

- Avoid give-away wording
- Make the first task simple
- Give a goal, without describing steps
- Use scenarios (short stories), not tasks
- Ask participants to bring typical examples of their work



# Usability Testing

## Plan Logistics

- Test location
  - Lab, office, usability/market research facility
- Prepare for observers
  - One-way glass observation room
  - Projected onto screen in adjoining room
- Traffic flow of participants
- Audio & video recording
  - Value of highlight tape



# Usability Testing

## Plan Logistics

- Materials needed
  - Screening questionnaire
  - Background questionnaire
  - Pre- and Post-test questionnaires
- Video release form
- Incentive signature form
- Schedule
- Facilitator's guide
- Participants' scenarios
  - Observers' scenarios (with pathways included)
  - Data collection materials (with measurements defined)



U.S. General Services Administration

# Usability Testing

## Facilitator's Role

- Establish rapport
- Listen more than you speak
- Ask questions neutrally
- Have a clear understanding of goals and critical issues
- Use open-ended questions
- Do not lead the participant
- Do not put words into the participant's mouth
- Watch your body language



# Usability Testing

## Collecting data

- **Performance Data**
  - Objective (*what actually happened*)
  - Usually Quantitative
    - Time to complete a task
      - Time to recover from an error
      - Number of errors
    - Percentage of tasks completed successfully
      - Number of clicks
      - Pathway information

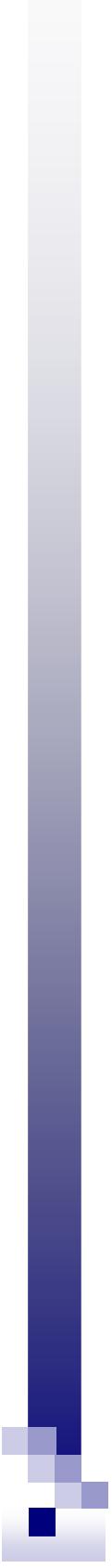


# Usability Testing

## Collecting data

- **Preference Data**
  - Subjective (*what participants thought*)
  - Usually Qualitative
    - Preference of versions
    - Suggestions and comments
    - Ratings or rankings (*can be quantitative*)





# Usability Testing

---

## Collecting data

- **Observation** – What actually happened
- **Inference** – What you think it means
- **User Comments** – What the participants actually says
  
- Important to distinguish between these



# Usability Testing

## Analyzing the data

- Quantitative data
  - Statistics (number of clicks, errors rate, time, etc.)
    - Look for trends
- Qualitative data
  - Attitude, comments



# Usability Testing

---

## Prioritize findings

- Usability goals met?
  - Prioritize tasks that performed the worst according to goals
  - Prioritize findings by frequency / importance
  - Prioritize recommendations by feasibility



U.S. General Services Administration

# Usability Testing

## Report findings and recommendations

- Make report usable for *your* users
- Include quantitative data (success rates, times, etc.)
- Avoid words like “few, many, several”. **Include counts**
- Use quotes
- Use screenshots
- Mention positive findings
- Do not use participant names, use P1, P2, P3, etc.
- Include recommendations
- Make it short

**Implement and retest!**



**Participants did not understand the difference between “other” and “related”**

The Specimen Resource Locator is a database to help researchers locate human specimens (tissue, DNA/RNA, other specimens) for cancer research. It includes tissue banks and tissue procurement systems with access to normal, benign precancerous and cancerous human tissue from a variety of organs.

**Search for:**

**Specimens from Patients with Tumors**

- Select type of tumor, sample, method of preservation, number of cases...

**Specimens From Normal Subjects**

- Select organ site, type of sample, method of preservation, number of cases...

**Contact Tissue Expediter**

- Contact a scientist who can relate researcher needs to existing resources
  - Address, telephone, and email

**Let Us Know if You Have Specimen Collections**

**Related Links**

Information for Researchers Using Specimens

Legal and Ethical Issues Related to the Use of Specimens

Links to Other Web Sites

- Cancer Diagnosis Program
- Research Resources
- Resources Development Branch
  - All Links

Tissue Array Research Program(TARP): Multi-Tumor Tissue Microarrays

- 500 tissue samples arrayed onto a glass slide

Information on Cell Lines

- American Type Culture Collection (ATCC)
- NCI Developmental Therapeutics Program Repository
  - 60 human cancer cell lines
- Corelle Cell Repositories
  - All Links

Information on Other Research Resources

Address: http://specimens.nci.nih.gov/tissue/default.htm

File Edit View Favorites Tools Help

Back → × Home About This Site Site Map Contact Us Disclaimer

Google Infodesign toolkit Search Site Page Info Up Highlight

NCI Specimen Resource Locator A service of the National Cancer Institute

NATIONAL CANCER INSTITUTE

Tissue Expediter

Information for Researchers

Legal & Ethical Issues

Done Start Back Internet 2:28 PM

usab101-first... Usability 101.v3

NCI Specimen...

**Finding:** Participants were not sure where to look first and had trouble identifying the most important aspects of the page.

Navigation that changes with tabs



No obvious order of importance. Participants did not know where to focus their attention.



American Samoa Five States Receive Aid

President Bush has declared disaster assistance for American Samoa. President Bush has issued a disaster declaration for Cyclone Olaf, while Arizona received a declaration for flooding. Nevada, Connecticut, Rhode Island and Massachusetts received emergency declarations for severe snows.

Also: 2005 Disaster Declarations

Dark Blue Left Navigation

Active Disasters & Emergencies

Find out what's happening in your area.

S. Genera

Disaster Updates

More FEMA News

Florida Hurricane Aid at \$4.1 Billion

Indiana Disaster Aid Tops \$9 Million

Lots of Links with Red Headings

Colorful Images / Banners

# Refine

- Most important step is to refine....
  - Test
  - Refine
  - Test
  - Refine....



U.S. General Services Administration



[WELCOME](#) | [TEXT VERSION](#) | [FAQ's](#) | [SITE INFO](#) | [WHAT'S NEW](#)

[SEARCH](#)

[NEWS](#)

[AGENCIES](#)

[OPPORTUNITIES](#)

[ABOUT US](#)

[RELATED SITES](#)

1-877-696-6775  
200 I DEPENDENCE AVE SW  
WASHINGTON DC 20201

[Help Us Improve This Site](#)

The A-Z link was overshadowed by the text before it and the drop-down after it.

Get Information On: [A-Z](#) or [Select a topic](#)

[FIRST GOV](#)

[Go](#)



- Latest Headlines:
- > [HHS Awards More Than \\$8.4 Million in Grants to Address Nation's Nursing Shortage](#)
  - > [HHS Secretary Thompson Forges Partnership with America's Nurses to Enhance Public Health Preparedness](#)
  - > [Secretary Thompson Urges Congress to Pass President's Plan to Assist Uninsured](#)

**SPOTLIGHT ON**  
**West Nile Virus Information**



[DISCLAIMERS](#) | [PRIVACY NOTICE](#)

Last revised: September 30, 2002

[FOR KIDS](#) | [FOIA](#) | [CONTACT US](#)

Users thought the picture links were sponsors.

Search was a button with no box for typing search terms.

All the content is at agency sites. To get to it, users had to pick the right agency from the descriptions on the page this leads to.

The center of the screen was taken up by news items, not the major topics users were looking for.

**Separates and visually distinguishes the search function.**

**Displays time-critical and/or sensitive information prominently in the right panel.**

**Establishes HHS as a 'brand' by presenting the breadth of the Department's activities and products – health AND human services – on the portal pages.**

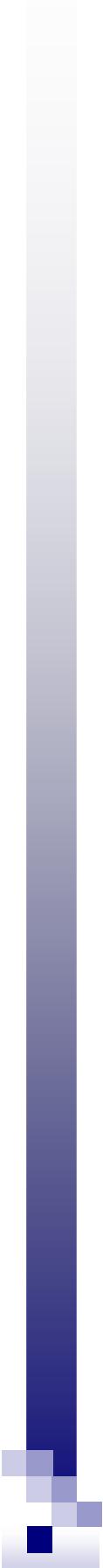
**Displays information topics openly – they are immediately visible and available to the user, not buried in a drop-down list or in an alphabetized resource list as on the original HHS homepage.**

# HHS Site:

## Baseline vs. Redesign Comparison

Scenario Text	Success Rate	
	Baseline Test	Final Prototype
You want to find a nursing home for a relative.	38%	88%
You want to know what diabetes is and how you can prevent it.	73%	94%
You want to know what housing organizations are available to help assist the homeless in your area.	13%	94%
You want to know what the Fiscal Year 2001 budget for HHS was.	71%	94%
Your cousin is considering a career in medical research and asked you if HHS offers financial aid to undergraduate students.	8%	88%
<b>Average success rate</b>	<b>41%</b>	<b>92%</b>





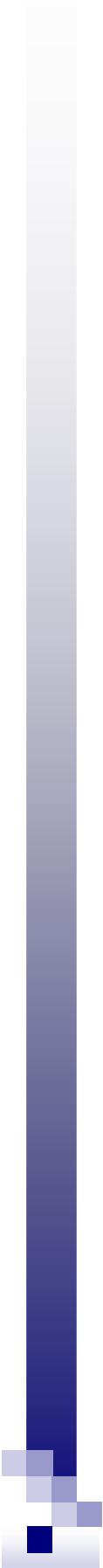
# Federal Usability Resources

---

- Many usability resources and training are available.
- YOU can add to those resources.



U.S. General Services Administration

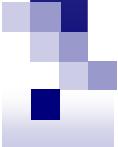


# Usability.gov

- <http://usability.gov>
- **Website to help increase the usability of Federal websites and online applications**
  - Includes usability basics, methodology, tools, resources, lessons learned, and more
  - Built for Federal web/communication technology developers but available to anyone
  - Currently undergoing redesign
  - Cosponsored by the U. S. Department of Health and Human Services (HHS) and GSA



U.S. General Services Administration



# Research-based Web Usability

---

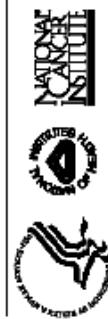
- **Research-based Web Design and Usability Guidelines (2003)**
  - 187 guidelines based on research in usability, user interfaces, human factors
  - Peer-reviewed by usability experts, usability researchers, and website developers/designers
  - PDF available on <http://usability.gov> (web version coming soon), Book available on amazon
  - Update in process
  - Cosponsored by HHS and GSA



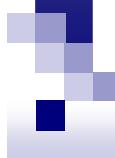
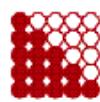
U.S. General Services Administration



Communication  
Technologies Branch  
OFFICE OF COMMUNICATIONS  
NATIONAL CAPITAL REGION



# Research-Based Web Design & Usability Guidelines



# Research-Based Web Design & Usability Guidelines

U.S. Department of Health  
and Human Services

Current Research-Based Guidelines on Web Design and Usability Issues



Note: All files on this website are PDFs. To view or print a PDF you need to download free [Adobe Reader](#) software.

## [View and Print Entire Guidelines Book](#)

(128 pages, 39.2 MB)

or

## New Features

- Guidelines Sorting Tool: Sort Guidelines by Title, Importance, Strength of Evidence, and Other Options

## [View and Print Guidelines Book by Section](#)

- [Introduction and Background](#)
- [Guidelines by Chapter](#)
- [Sources/Bibliographies](#)
- [Glossary, Indices, and Appendices](#)

## Introduction and Background

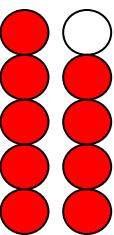
- [Forewords](#) (3 pages, 276 K)
  - Tommy G. Thompson, Secretary of Health and Human Services
  - Ben Shneiderman, University of Maryland
- [Introduction](#) (2 pages, 40 K)
  - [Background and Methodology](#) (2 pages, 48 K)  
Includes detailed Strength of Evidence scale
  - [How to Use the Guidelines](#) (2 pages, 44 K)  
Includes important considerations for using the Guidelines
  - [Contributors](#) (2 pages, 40 K)

# Guideline Categories

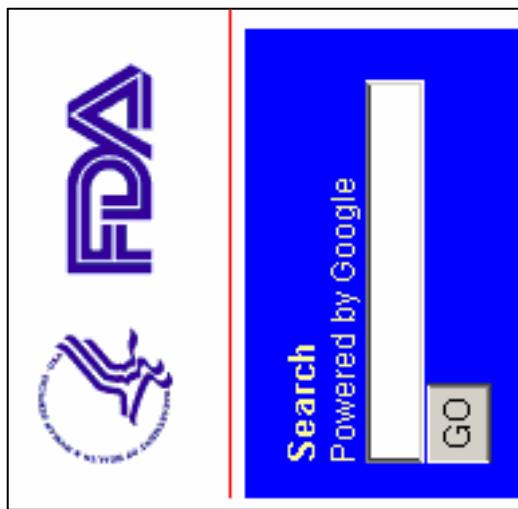
- Design Process and Evaluation
- User Friendliness
- Accessibility
- User's Hardware and Software
- The Homepage
- Overall Page Layout
- Navigation
- Scrolling and Paging
- Links
- Headings, Titles, and Labels
- Text Characteristics
- Lists
- Data Entry and Widgets
- Graphics, Images, and Multimedia
- Writing Web Content
- Organizing Content
- Search



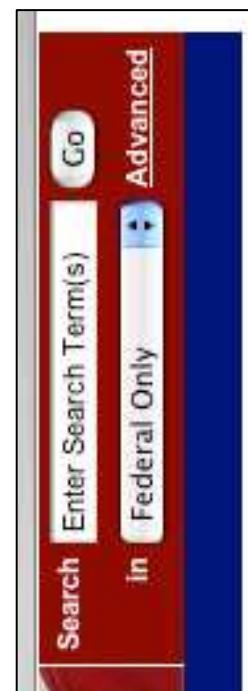
## 17.3 Allow Simple Searches

Importance  
 5  
Evidence  

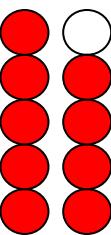

Sources: 7



To search the GPO Web Site, enter terms in the box above. (Present configuration confines search to only the files resident on this site. It does not search GPO Access databases resident on other GPO servers.)



## 17.3 Allow Simple Searches

Importance   
Evidence 

Sources: 7

### Search the Archives

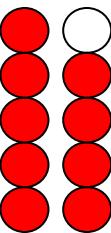
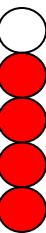
**TIP:** use quotation marks around proper names and multiple word searches, e.g., "confiscated british property", "John H. Johnson". Remember that proper names can be on the website with or without the middle initial.

 Click on this icon for a description of the search.

 Search the Archives website using Google™	 Search the Maryland Manual Online	 Search the Archives of Maryland Online	 View other Archives' Indexes
 Search Special Collections	 Search for Biographical Information	 Search the Government Publications Database	 Search the Archives' Library



# 17.3 Allow Simple Searches

Importance   
Evidence 

Sources: 7



## Search the Archives

**Maryland State Archives**  
350 Rowe Boulevard  
Annapolis, MD 21401  
MD toll-free (800) 233-4045 or (410) 260-6400  
fax: (410) 974-3895  
email: [archives@mdarchives.state.md.us](mailto:archives@mdarchives.state.md.us)  
web site: <http://mdsa.net>

No tables version

**TIP:** use quotation marks around proper names and multiple word searches, e.g., "confiscated british property", "John H. Johnson". Remember that proper names can be on the website with or without the middle initial.

 Search Archives' website using Infoseek	 Search the Archives website using HLDIG	 Search the Archives website using Google	 Search the Maryland Manual Online
 Search Special Collections	 Search for Biographical Information	 Search the Government Publications Database	 Search Maryland Electronic Capital (MEC)



**Google Search** - Use the Google™ search engine to search the entire Archives' website. [USE THIS SEARCH](#)

**Maryland Manual On-Line** - Search *Maryland Manual On-Line: A Guide to Maryland Government*.

Published by the Maryland State Archives, the *Maryland Manual On-Line* is a continuously updated guide to Maryland government. The online Manual presents an overview of the organizational structure and staffing of the executive, legislative and judicial branches of Maryland government. It shows agency budgets and organizational charts, lists mandated reports, and provides the historical evolution of agencies, and their origin and functions.

The *Maryland Manual On-Line* includes biographies of legislators, constitutional officers, department secretaries, judges, and Maryland's Congressional delegation. It gives information on local government (county and municipal), as well as intercounty, interstate and federal agencies. In addition, the Manual contains the State budget, the Constitution of Maryland, and election returns. The Maryland at a Glance section offers condensed data on many Maryland subjects, State symbols, Maryland historical chronology, and Maryland government. [USE THIS SEARCH](#)

**Archives of Maryland Online** - The Maryland State Archives publication series, *Archives of Maryland Online*,

providing access hundreds of historical documents that form the constitutional, legal, legislative, judicial, and administrative basis of Maryland's government. Online access to this information at the Archives' web site enables users to research quickly and easily such topics as Maryland's constitutions and constitutional conventions' proceedings, session laws, proceedings of the General Assembly, governors' papers, and military records. Search the *Archives of Maryland Online* for session laws, proceedings of the General Assembly, executive records, Constitutional Conventions, historical editions of the annotated code, and the Muster Rolls for the Revolutionary War.  
[USE THIS SEARCH](#)

**Special Collections** - Search the Maryland State Archives' Special Collections for church records, newspapers, photographs, maps, personal letters, diaries, and manuscript documents. [USE THIS SEARCH](#)

**Biographical files** - Search the Maryland State Archives' web site for biographical information on people who have played a part in Maryland history. See the *Archives of Maryland Historical & Biographical Series* for more information. [USE THIS SEARCH](#)

**Government Publications** - Search the titles of an extensive bibliography of State, county, and municipal publications. See also *Archives of Maryland Online* for online Maryland government publications. [USE THIS SEARCH](#)

**Library** - Search the Archives' Library by author, title, description, subject or family name (for genealogies). These books are only available by request in the Archives' searchroom. [USE THIS SEARCH](#)

**Google Search** - Use the Google™ search engine to search the entire Archives' website. [USE THIS SEARCH](#)

**Maryland Manual On-Line** - Search *Maryland Manual On-Line: A Guide to Maryland Government*.

Published by the Maryland State Archives, the *Maryland Manual On-Line* is a continuously updated guide to Maryland government. The online Manual presents an overview of the organizational structure and staffing of the executive, legislative and judicial branches of Maryland government. It shows agency budgets and organizational charts, lists mandated reports, and provides the historical evolution of agencies, and their origin and functions.

The *Maryland Manual On-Line* includes biographies of legislators, constitutional officers, department secretaries, judges, and Maryland's Congressional delegation. It gives information on local government (county and municipal), as well as intercounty, interstate and federal agencies. In addition, the Manual contains the State budget, the Constitution of Maryland, and election returns. The Maryland at a Glance section offers condensed data on many Maryland subjects, State symbols, Maryland historical chronology, and Maryland government. [USE THIS SEARCH](#)

**Archives of Maryland Online** - The Maryland State Archives publication series, *Archives of Maryland Online*,

providing access hundreds of historical documents that form the constitutional, legal, legislative, judicial, and administrative basis of Maryland's government. Online access to this information at the Archives' web site enables users to research quickly and easily such topics as Maryland's constitutions and constitutional conventions' proceedings, session laws, proceedings of the General Assembly, governors' papers, and military records. Search the *Archives of Maryland Online* for session laws, proceedings of the General Assembly, executive records, Constitutional Conventions, historical editions of the annotated code, and the Muster Rolls for the Revolutionary War.  
[USE THIS SEARCH](#)

**Special Collections** - Search the Maryland State Archives' Special Collections for church records, newspapers, photographs, maps, personal letters, diaries, and manuscript documents. [USE THIS SEARCH](#)

**Biographical files** - Search the Maryland State Archives' web site for biographical information on people who have played a part in Maryland history. See the *Archives of Maryland Historical & Biographical Series* for more information. [USE THIS SEARCH](#)

**Government Publications** - Search the titles of an extensive bibliography of State, county, and municipal publications. See also *Archives of Maryland Online* for online Maryland government publications. [USE THIS SEARCH](#)

**Library** - Search the Archives' Library by author, title, description, subject or family name (for genealogies). These books are only available by request in the Archives' searchroom. [USE THIS SEARCH](#)

**Google Search** - Use the Google™ search engine to search the entire Archives' website. [USE THIS SEARCH](#)

**Maryland Manual On-Line** - Search *Maryland Manual On-Line: A Guide to Maryland Government*.

Published by the Maryland State Archives, the *Maryland Manual On-Line* is a continuously updated guide to Maryland government. The online Manual presents an overview of the organizational structure and staffing of the executive, legislative and judicial branches of Maryland government. It shows agency budgets and organizational charts, lists mandated reports, and provides the historical evolution of agencies, and their origin and functions.

The *Maryland Manual On-Line* includes biographies of legislators, constitutional officers, department secretaries, judges, and Maryland's Congressional delegation. It gives information on local government (county and municipal), as well as intercounty, interstate and federal agencies. In addition, the Manual contains the State budget, the *Constitution of Maryland*, and election returns. The Maryland at a Glance section offers condensed data on many Maryland subjects, State symbols, Maryland historical chronology, and Maryland government. [USE THIS SEARCH](#)

**Archives of Maryland Online** - The Maryland State Archives publication series, *Archives of*

*Maryland Online*, providing access hundreds of historical documents that form the constitutional, legal, legislative, judicial, and administrative basis of Maryland's government. Online access to this information at the Archives' web site enables users to research quickly and easily such topics as Maryland's constitutions and constitutional conventions' proceedings, session laws, proceedings of the General Assembly, governors' papers, and military records. Search the *Archives of Maryland Online* for session laws, proceedings of the General Assembly, executive records, Constitutional Conventions, historical editions of the annotated code, and the Muster Rolls for the Revolutionary War.

[USE THIS SEARCH](#)

**Special Collections** - Search the Maryland State Archives' Special Collections for church records, newspapers, photographs, maps, personal letters, diaries, and manuscript documents. [USE THIS SEARCH](#)

**Biographical files** - Search the Maryland State Archives' web site for biographical information on people who have played a part in Maryland history. See the *Archives of Maryland Historical & Biographical Series* for more information. [USE THIS SEARCH](#)

**Government Publications** - Search the titles of an extensive bibliography of State, county, and municipal publications. See also *Archives of Maryland Online* for online Maryland government publications. [USE THIS SEARCH](#)

**Library** - Search the Archives' Library by author, title, description, subject or family name (for genealogies). These books are only available by request in the Archives' searchroom. [USE THIS SEARCH](#)

**Google Search** - Use the Google™ search engine to search the entire Archives' website. [USE THIS SEARCH](#)

**Maryland Manual On-Line** - Search *Maryland Manual On-Line: A Guide to Maryland Government*.

Published by the Maryland State Archives, the *Maryland Manual On-Line* is a continuously updated guide to Maryland government. The online Manual presents an overview of the organizational structure and staffing of the executive, legislative and judicial branches of Maryland government. It shows agency budgets and organizational charts, lists mandated reports, and provides the historical evolution of agencies, and their origin and functions.

The *Maryland Manual On-Line* includes biographies of legislators, constitutional officers, department secretaries, judges, and Maryland's Congressional delegation. It gives information on local government (county and municipal), as well as intercounty, interstate and federal agencies. In addition, the Manual contains the State budget, the *Constitution of Maryland*, and election returns. The Maryland at a Glance section offers condensed data on many Maryland subjects, State symbols, Maryland historical chronology, and Maryland government. [USE THIS SEARCH](#)

**Archives of Maryland Online** - The Maryland State Archives publication series, *Archives of Maryland Online*,

providing access hundreds of historical documents that form the constitutional, legal, legislative, judicial, and administrative basis of Maryland's government. Online access to this information at the Archives' web site enables users to research quickly and easily such topics as Maryland's constitutions and constitutional conventions' proceedings, session laws, proceedings of the General Assembly, governors' papers, and military records. Search the *Archives of Maryland Online* for session laws, ~~proceedings~~ of the General Assembly, executive records, Constitutional Conventions, historical editions of the annotated code, and the Muster Rolls for the Revolutionary War.

[USE THIS SEARCH](#)

**Special Collections** - Search the Maryland State Archives' Special Collections for church records, newspapers, photographs, maps, personal letters, diaries, and manuscript documents. [USE THIS SEARCH](#)

**Biographical files** - Search the Maryland State Archives' web site for biographical information on people who have played a part in Maryland history. See the *Archives of Maryland Historical & Biographical Series* for more information. [USE THIS SEARCH](#)

**Government Publications** - Search the titles of an extensive bibliography of State, county, and municipal publications. See also *Archives of Maryland Online* for online Maryland government publications. [USE THIS SEARCH](#)

**Library** - Search the Archives' Library by author, title, description, subject or family name (for genealogies). These books are only available by request in the Archives' searchroom. [USE THIS SEARCH](#)

**Google Search** - Use the Google™ search engine to search the entire Archives' website. [USE THIS SEARCH](#)

**Maryland Manual On-Line** - Search *Maryland Manual On-Line: A Guide to Maryland Government*.

Published by the Maryland State Archives, the *Maryland Manual On-Line* is a continuously updated guide to Maryland government. The online Manual presents an overview of the organizational structure and staffing of the executive, legislative and judicial branches of Maryland government. It shows agency budgets and organizational charts, lists mandated reports, and provides the historical evolution of agencies, and their origin and functions.

The *Maryland Manual On-Line* includes biographies of legislators, constitutional officers, department secretaries, judges, and Maryland's Congressional delegation. It gives information on local government (county and municipal), as well as intercounty, interstate and federal agencies. In addition, the Manual contains the State budget, the Constitution of Maryland, and election returns. The Maryland at a Glance section offers condensed data on many Maryland subjects, State symbols, Maryland historical chronology, and Maryland government. [USE THIS SEARCH](#)

**Archives of Maryland Online** - The Maryland State Archives publication series, *Archives of Maryland Online*,

providing access hundreds of historical documents that form the constitutional, legal, legislative, judicial, and administrative basis of Maryland's government. Online access to this information at the Archives' web site enables users to research quickly and easily such topics as Maryland's constitutions and constitutional conventions' proceedings, session laws, proceedings of the General Assembly, governors' papers, and military records. Search the *Archives of Maryland Online* for session laws, ~~proceedings~~ of the General Assembly, executive records, Constitutional Conventions, historical editions of the annotated code, and the Muster Rolls for the Revolutionary War.

[USE THIS SEARCH](#)

**Special Collections** - Search the Maryland State Archives' Special Collections for church records, newspapers, photographs, maps, personal letters, diaries, and manuscript documents. [USE THIS SEARCH](#)

**Biographical files** - Search the Maryland State Archives' web site for biographical information on people who have played a part in Maryland history. See the *Archives of Maryland Historical & Biographical Series* for more information. [USE THIS SEARCH](#)

**Government Publications** - Search the titles of an extensive bibliography of State, county, and municipal publications. See also *Archives of Maryland Online* for online Maryland government publications. [USE THIS SEARCH](#)

**Library** - Search the Archives' Library by author, title, description, subject or family name (for genealogies). These books are only available by request in the Archives' searchroom. [USE THIS SEARCH](#)

**Google Search** - Use the Google™ search engine to search the entire Archives' website. [USE THIS SEARCH](#)

**Maryland Manual On-Line** - Search *Maryland Manual On-Line: A Guide to Maryland Government*

Published by the Maryland State Archives, the *Maryland Manual On-Line* is a continuously updated guide to Maryland government. The online Manual presents an overview of the organizational structure and staffing of the executive, legislative and judicial branches of Maryland government. It shows agency budgets and organizational charts, lists mandated reports, and provides the historical evolution of agencies, and their origin and functions.

The *Maryland Manual On-Line* includes biographies of legislators, constitutional officers, department secretaries, judges, and Maryland's Congressional delegation. It gives information on local government (county and municipal), as well as intercounty, interstate and federal agencies. In addition, the Manual contains the State budget, the Constitution of Maryland, and election returns. The Maryland at a Glance section offers condensed data on many Maryland subjects, State symbols, Maryland historical chronology, and Maryland government. [USE THIS SEARCH](#)

**Archives of Maryland Online** - The Maryland State Archives publication series, *Archives of Maryland Online*

providing access hundreds of historical documents that form the constitutional, legal, legislative, judicial, and administrative basis of Maryland's government. Online access to this information at the Archives' web site enables users to research quickly and easily such topics as Maryland's constitutions and constitutional conventions' proceedings, session laws, proceedings of the General Assembly, governors' papers, and military records. Search the *Archives of Maryland Online* for session laws, ~~proceedings~~ of the General Assembly, executive records, Constitutional Conventions, historical editions of the annotated code, and the Muster Rolls for the Revolutionary War.

[USE THIS SEARCH](#)

**Special Collections** - Search the Maryland State Archives' Special Collections for church records, newspapers, photographs, maps, personal letters, diaries, and manuscript documents. [USE THIS SEARCH](#)

**Biographical files** - Search the Maryland State Archives' web site for biographical information on people who have played a part in Maryland history. See the *Archives of Maryland Historical & Biographical Series* for more information. [USE THIS SEARCH](#)

**Government Publications** - Search the titles of an extensive bibliography of State, county, and municipal publications. See also *Archives of Maryland Online* for online Maryland government publications. [USE THIS SEARCH](#)

**Library** - Search the Archives' Library by author, title, description, subject or family name (for genealogies). These books are only available by request in the Archives' searchroom. [USE THIS SEARCH](#)

**Google Search** - Use the Google™ search engine to search the entire Archives' website. [USE THIS SEARCH](#)

**Maryland Manual On-Line** - Search *Maryland Manual On-Line: A Guide to Maryland Government*

Published by the Maryland State Archives, the *Maryland Manual On-Line* is a continuously updated guide to Maryland government. The online Manual presents an overview of the organizational structure and staffing of the executive, legislative and judicial branches of Maryland government. It shows agency budgets and organizational charts, lists mandated reports, and provides the historical evolution of agencies, and their origin and functions.

The *Maryland Manual On-Line* includes biographies of legislators, constitutional officers, department secretaries, judges, and Maryland's Congressional delegation. It gives information on local government (county and municipal), as well as intercounty, interstate and federal agencies. In addition, the Manual contains the State budget, the Constitution of Maryland, and election returns. The Maryland at a Glance section offers condensed data on many Maryland subjects, State symbols, Maryland historical chronology, and Maryland government. [USE THIS SEARCH](#)

**Archives of Maryland Online** - The Maryland State Archives publication series, *Archives of Maryland Online*

providing access hundreds of historical documents that form the constitutional, legal, legislative, judicial, and administrative basis of Maryland's government. Online access to this information at the Archives' web site enables users to research quickly and easily such topics as Maryland's constitutions and constitutional conventions' proceedings, session laws, proceedings of the General Assembly, governors' papers, and military records. Search the *Archives of Maryland Online* for session laws, ~~proceedings~~ of the General Assembly, executive records, Constitutional Conventions, historical editions of the annotated code, and the Muster Rolls for the Revolutionary War.

[USE THIS SEARCH](#)

**Special Collections** - Search the Maryland State Archives' Special Collections for church records, newspapers, photographs, maps, personal letters, diaries, and manuscript documents. [USE THIS SEARCH](#)

**Biographical files** - Search the Maryland State Archives' web site for biographical information on people who have played a part in Maryland history. See the *Archives of Maryland Historical & Biographical Series* for more information. [USE THIS SEARCH](#)

**Government Publications** - Search the titles of an extensive bibliography of State, county, and municipal publications. See also *Archives of Maryland Online* for online Maryland government publications. [USE THIS SEARCH](#)

**Library** - Search the Archives' Library by author, title, description, subject or family name (for genealogies). These books are only available by request in the Archives' searchroom. [USE THIS SEARCH](#)

**Google Search** - Use the Google™ search engine to search the entire Archives' website. [USE THIS SEARCH](#)

**Maryland Manual On-Line** - Search *Maryland Manual On-Line: A Guide to Maryland Government*

Published by the Maryland State Archives, the *Maryland Manual On-Line* is a continuously updated guide to Maryland government. The online Manual presents an overview of the organizational structure and staffing of the executive, legislative and judicial branches of Maryland government. It shows agency budgets and organizational charts, lists mandated reports, and provides the historical evolution of agencies, and their origin and functions.

The *Maryland Manual On-Line* includes biographies of legislators, constitutional officers, department secretaries, judges, and Maryland's Congressional delegation. It gives information on local government (county and municipal), as well as intercounty, interstate and federal agencies. In addition, the Manual contains the State budget, the Constitution of Maryland, and election returns. The Maryland at a Glance section offers condensed data on many Maryland subjects, State symbols, Maryland historical chronology, and Maryland government. [USE THIS SEARCH](#)

**Archives of Maryland Online** - The Maryland State Archives publication series, *Archives of Maryland Online*

providing access hundreds of historical documents that form the constitutional, legal, legislative, judicial, and administrative basis of Maryland's government. Online access to this information at the Archives' web site enables users to research quickly and easily such topics as Maryland's constitutions and constitutional conventions' proceedings, session laws, proceedings of the General Assembly, governors' papers, and military records. Search the *Archives of Maryland Online* for session laws, ~~proceedings~~ of the General Assembly, executive records, Constitutional Conventions, historical editions of the annotated code, and the Muster Rolls for the Revolutionary War.

[USE THIS SEARCH](#)

**Special Collections** - Search the Maryland State Archives' Special Collections for church records, newspapers, photographs, maps, personal letters, diaries, and manuscript documents. [USE THIS SEARCH](#)

**Biographical files** - Search the Maryland State Archives' web site for biographical information on people who have played a part in Maryland history. See the *Archives of Maryland Historical & Biographical Series* for more information. [USE THIS SEARCH](#)

**Government Publications** - Search the titles of an extensive bibliography of State, county, and municipal publications. See also *Archives of Maryland Online* for online Maryland government publications. [USE THIS SEARCH](#)

**Library** - Search the Archives' Library by author, title, description, subject or family name (for genealogies). These books are only available by request in the Archives' searchroom. [USE THIS SEARCH](#)

# Usability University

- **Free seminars and low-cost courses on usability topics primarily held in Washington, DC area**
- Spring 04 – 387 Federal staff/contractors representing more than 30 agencies attended
- Cosponsored by GSA & HHS
- **Spring 2005 schedule**

## Courses:

<http://usability.gov/usabilityuniversity/training.htm>

## Seminars:

<http://usability.gov/usabilityuniversity/seminar.htm>

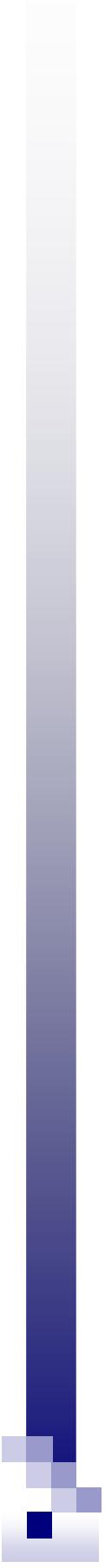


# U-Group e-newsletter

- **GSA e-newsletter on usability topics**
- To subscribe:
  - Send email to [listserv@listserv.gsa.gov](mailto:listserv@listserv.gsa.gov) and type the following command in the body of message:  
subscribe u-group
  - September, 2004 Issue – Older Users and the Web
  - <http://www.gsa.gov/u-group>



U.S. General Services Administration



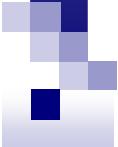
# Usability Testing Environment (UTE) Tool

---

- Automated tool that collects quantitative and qualitative data generated in usability testing
- Will provide easier, more accurate, and quantitative reporting of website usability performance and preference data
- Beta version in testing now, will be available to all Federal web/application developers
- Cosponsored by GSA, IRS, NRC, HHS, NIST IUSR Project



U.S. General Services Administration

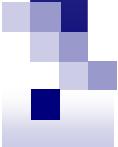


# STEP508 Accessibility Tool

- Accessibility prioritization tool that **takes results of accessibility evaluation tools (Bobby, LIFT, WebKing, etc.) and prioritizes the accessibility errors**
- Helps developers assess current state of accessibility of website, prioritize the accessibility problems to fix, and track progress in fixing accessibility errors over time
- Free download from <http://section508.gov/step>
- Cosponsored by GSA and HHS



U.S. General Services Administration



# Usability Organizations

---

- **Usability Professionals Association (UPA)**  
<http://usabilityprofessionals.org>
- **Society for Technical Communication (STC)**  
<http://stc.org>
- **Human Factors and Ergonomics Society (HFEs)**  
<http://hfes.org>
- **Association for Computing Machinery/SIGchi**  
<http://acm.org>



# Contact

## **Janice R. Nall**

Manager, User Experience Group  
Office of Citizens Services and Communications (OCSC)  
General Services Administration (GSA)  
1800 F Street NW, Suite 1234  
Washington, DC 20405  
202/219-1544  
[janice.nall@gsa.gov](mailto:janice.nall@gsa.gov)  
<http://www.gsa.gov/usability>



U.S. General Services Administration